

CONTENTS

VIEWPOINT

Some conclusions on the International Symposium on High Temperature Corrosion of Marseille, July 7-11, 1987	1
P. Lacombe (Orsay, France)	
Tritium and helium effects on plastic deformation in AISI 316 stainless steel	7
S. L. Robinson (Livermore, CA, U.S.A.)	
Structure refinement and improved mechanical properties of Al-20wt.%Si by rapid solidification in conjunction with strontium modification	17
M. van Rooyen, N. M. van der Pers, Th. H. de Keijser and E. J. Mittemeijer (Delft, The Netherlands)	
Substructure development in shock-loaded Cu-8.7Ge and copper: the role of temperature, grain size and stacking fault energy	27
M. A. Crimp, B. C. Smith, D. E. Mikkola (Houghton, MI, U.S.A.)	
Fatigue crack growth behaviour of MA6000	41
A.Tekin and J. W. Martin (Oxford, U.K.)	
The effect of the surface roughness and the load application mode on hydrogen embrittlement	51
E. Quadrini, R. Fratesi and G. Roventi (Ancona, Italy)	
On the grain size dependence of Harper-Dorn creep	57
S. V. Raj (Houston, TX, U.S.A.)	
A numerical study of intergranular cavity growth in creep	65
J. Svoboda and J. Čadek (Brno, Czechoslovakia)	
The strength differential and Bauschinger effects in SiC-Al composites	77
R. J. Arsenault and S. B. Wu (College Park, MD, U.S.A.)	
Effect of temperature on crack growth in type 304 stainless steel	89
V. M. Radhakrishnan and M. Kamaraj (Madras, India)	
Fatigue crack growth and closure at high cyclic strains	99
N. E. Dowling and N. S. Iyyer (Blacksburg, VA, U.S.A.)	
Diametral compression of silicon nitride	109
J. E. O. Ovri and T. J. Davies (Manchester, U.K.)	
Investigation of region I of superplastic Al-Zn-Mg-Cu-Mn alloy	117
G. S. Murty and M. J. Koczak (Philadelphia, PA, U.S.A.)	
Substructure development and mechanical properties of cold-rolled aluminium alloy 3004	125
I: Substructure development	125
Liu Yi-Lin, L. Delaey, E. Aernoudt and O. Arkens (Leuven, Belgium)	
Substructure development and mechanical properties in cold-rolled aluminium alloy 3004	139
II: Mechanical properties	139
Liu Yi-Lin, L. Delaey, E. Aernoudt and O. Arkens (Leuven, Belgium)	
Flow and fracture of Fe-Al	147
I. Baker (Hanover, NH, U.S.A.) and D. J. Gaydosh (Cleveland, OH, U.S.A.)	
Investigation of dislocation structures in predeformed AISI 4340 steel	159
M. Nabil Bassim and X. B. Huang (Manitoba, Canada)	
Long-range internal stresses and low-temperature phonon scattering in plastically deformed niobium and tantalum single crystals	167
W. Wasserbäch (Stuttgart, F.R.G.)	
Effects of lead on the sustained-load cracking of Al-Mg-Si alloys at ambient temperatures	185
J. J. Lewandowski (Cleveland, OH, U.S.A.), V. Kohler (Cambridge, U.K.) and N. J. H. Holroyd (Banbury, U.K.)	
The influence of Guinier-Preston zones on the low field Hall coefficient of Al-Cu alloys	197
C. Papastaikoudis, C. Kanakis (Attiki, Greece) and K. Papathanassopoulos (Patra, Greece)	
Permeation of deuterium through double-walled Croloy tubes	205
S. Sinharoy, A. R. Keeton, W. J. Lange (Pittsburgh, PA, U.S.A.) and L. E. Efferding (Pensacola, FL, U.S.A.)	
Effects of alloying additions of titanium, molybdenum, silicon, hafnium and tantalum on the microstructure of iron aluminides near Fe_3Al	213
H. P. Longworth and D. E. Mikkola (Houghton, MI, U.S.A.)	
Transmission electron microscopy study of austempered nodular iron: influence of silicon content, austempering time and austempering temperature	231
V. Franetovic, M. M. Shea and E. F. Ryntz (Warren, MI, U.S.A.)	

(continued on inside back cover)

CONTENTS (continued)

Structure and oxidation behaviour at 850 °C of the M _{4.25} Al _{0.75} Y intermetallic phase alloy (M = Ni + Co + Cr)	247
M. Vilasi, M. Mansour-Gabri, J. Steinmetz and P. Steinmetz (Vandoeuvre les Nancy, France)	
Application of a thermomechanical process for the grain refinement of aluminium alloy 7475	253
E.-W. Lee (Warminster, PA, U.S.A.) and T. R. McNelley (Monterey, CA, U.S.A.)	
Feeding to castings from a riser in a pasty state	259
C. Y. Liu, K. Murakami, T. Okamoto and S. Goda (Osaka, Japan)	
Interdiffusion and reaction in the Fe-Al bilayer:	
I: Rutherford backscattering analysis of furnace-annealed samples	267
S. R. Teixeira, P. H. Dionisio (Porto Alegre, Brazil), E. F. da Silveira, F. L. Freire, Jr. (Rio de Janeiro, Brazil), W. H. Schreiner and I. J. R. Baumvol (Porto Alegre, Brazil)	
II: Sheet resistivity of furnace-annealed samples	279
S. R. Teixeira, P. H. Dionisio, M. A. Z. Vasconcellos (Porto Alegre, Brazil), E. F. da Silveira (Rio de Janeiro, Brazil), W. H. Schreiner and I. J. R. Baumvol (Porto Alegre, Brazil)	
Interdiffusion and reaction in the Fe-Al bilayer:	
III: Phase characterization of furnace-annealed samples	285
S. R. Teixeira (Porto Alegre, Brazil), C. A. dos Santos (Natal, Brazil), P. H. Dionisio, W. H. Schreiner and I. J. R. Baumvol (Porto Alegre, Brazil)	
Transmission electron microscopy studies of the martensitic transformation in a Ti ₅₀ Ni ₄₅ Au ₅ alloy	295
S. K. Wu and C. M. Wayman (Urbana, IL, U.S.A.)	
Particle packing of BaTiO ₃ powders in aqueous solutions	303
H. Itoh, M. V. Parish and H. K. Bowen (Cambridge, MA, U.S.A.)	
Effect of hydrogen on ductile fracture in a porous iron.	311
J. Kameda and W. A. Spitzig (Ames, IA, U.S.A.)	
On the possibility of the application of a laser flash method to evaluate the influence of the gypsum structure on the thermal diffusivity	321
K. Rozniakowski, T. W. Wojtowicz, A. Drobniak and P. Klemm (Łódź, Poland)	
BOOK REVIEWS	325
CONFERENCE CALENDAR	000
AUTHOR INDEX	000
SUBJECT INDEX	000
LETTERS	
Corduroy contrast in type 316 L stainless steel after cyclic plastic deformation	000
M. Gerland, B. Ait Saadi, P. Violan (Poitiers, France)	
Effect of rapid cooling on toughness and erosion resistance of commercial aluminas.	000
E. Y. Gutmanas, N. A. Travitzky (Haifa, Israel), N. A. Stone and A. I. Kingon (Pretoria, South Africa)	
High stresses in subboundaries and unknitting of dislocations from subboundaries in creep	000
A. Orlová (Brno, Czechoslovakia)	
Thermal gradient effects in direct resistance heated metal matrix composites	000
R. C. Wetherhold, M. Moschos (Buffalo, NY, U.S.A.)	
The effects of cyclic precompression on the magnetic coercivity of WC-6%Co	000
S. Bartolucci Luyckx (Johannesburg, South Africa)	
Preparation and characterisation of submicron reactive PZT powders	000
P. Ramakrishnan, R. Lal, R. Krishnan (Bombay, India)	

© ELSEVIER SEQUOIA S.A. (1987)

0025-5416/87/\$3.50

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of the publisher, Elsevier Sequoia S.A., P.O. Box 851, 1001 Lausanne 1, Switzerland.

Submission of an article for publication implies the transfer of the copyright from the author(s) to the publisher and entails the author(s) irrevocable and exclusive authorization of the publisher to collect any sums or considerations for copying or reproduction payable by third parties.

Upon acceptance of an article by this journal, the author(s) will be asked to transfer copyright of the article to the publisher. This transfer will ensure the widest possible dissemination of information.

For Material Subject to U.S. Copyright Law

Special regulations for readers in the U.S.A.
This journal has been registered with the Copyright Clearance Center, Inc., 27 Congress Street, Salem, MA 01970, U.S.A. Consent is given for copying of articles for personal use, or for the personal use of specific clients. This consent is given on the condition that the copier pays through the Center the per-copy fee stated in the code on the first page of each article for copying beyond that permitted by Sections 107 or 108 of the U.S. Copyright Law. If no code appears in an article, the author has not given broad consent to copy and permission to copy must be obtained directly from the author. All articles published prior to 1981 may be copied for a per-copy fee of U.S. \$2.50, also payable through the Center. This consent does not extend to other kinds of copying, such as for general distribution, resale, advertising and promotion purposes or for creating new collective works. Special written permission must be obtained from the publisher for such copying.

No responsibility is assumed by the Publisher for any injury and/or damage to persons or property as a matter of products liability, negligence or otherwise, or from any use or operation of any methods, products, instructions or ideas contained in the material herein.

